

2-1-1993

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### Recommended Citation

Butler, Janet B. (1993) "Student Loan Delinquencies: The Role of Exit Interviews," *Journal of Student Financial Aid*: Vol. 23 : Iss. 1 , Article 1.

Available at: <https://ir.library.louisville.edu/jsfa/vol23/iss1/1>

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# Student Loan Delinquencies: The Role of Exit Interviews

By Janet B. Butler

*This study examines the effectiveness of exit interviews as tools for reducing or predicting student loan delinquencies. Specifically, the article examines the relationship between delinquent payments in the first year of repayment and completion of the exit interview; identifies characteristics of borrowers most likely to complete interviews voluntarily; and investigates the relative effectiveness of exit interviews conducted in person compared to those completed through mailed documents.*

*Results indicate that borrowers who do not complete exit interviews are significantly more likely to have delinquent payments than are those completing the interview process. Also, of the characteristics examined, academic level at the time the last loan is received and race are related to exit interview completion. The study also found that the type of exit interview conducted (whether in person or by mail) is not related to delinquency in the first year of repayment.*

The Federal Perkins Loan (formerly the National Direct Student Loan) is an important source of financial aid for students attending postsecondary institutions. During the 1987-88 academic year alone, students received loans in excess of \$853 million (Andrew and Russo, 1989). Unfortunately, however, borrowers are frequently unable or unwilling to repay these loans after leaving school.

In an effort to stem the rising tide of delinquent borrowers, federal regulations require lending schools to perform an "exit interview" with each student borrower prior to leaving the institution. The purpose of the interview is to inform the borrower of his or her rights and responsibilities under the terms of the loan. A detailed plan of repayment is completed by the student borrower as are other documents. Interviews may be conducted in person or by mail. Financial aid administrators commit substantial time and effort conducting exit interviews as well as ensuring correct completion of the exit interview materials.

In spite of the significant costs associated with the exit process, there have been relatively few investigations of the effectiveness of the exit interview on reducing loan delinquency. This study has three major objectives:

- to examine the relationship between delinquency status and completion of the exit interview,
- to identify characteristics of borrowers most likely to complete interviews voluntarily, and
- to investigate the relative effectiveness of exit interviews conducted in person compared to those completed through mailed documents.

Janet B. Butler, Ph.D., C.P.A., is an Assistant Professor in the Department of Accounting at the University of North Carolina at Greensboro.

## Literature Review

Financial aid administrators and government officials view student loan delinquencies as a serious problem. Former Secretary of Education William Bennett predicted a staggering financial burden for taxpayers and future borrowers if federal costs for unpaid student loans continue to rise. Delinquencies are, therefore, a serious national concern (McCor-mick, 1987).

Many studies have been conducted that look at the problem of student loan delinquencies. Most work in this area has concentrated on identifying common characteristics of defaulted borrowers. For example, Gray (1985) examined 13 variables using logistic regression techniques and found that students who were in one or more of the following categories were more likely to default on their student loans: enrollment in the College of Arts and Sciences, having a number of loan debts, having educational debts, being Black, or reporting a marital status of "other" (generally this group consisted of divorced students). Dyl and McGann (1977), Myers and Siera (1980), and Stockham and Hesseldenz (1979) all found that the borrower's grade-point average was positively related to loan repayment. In addition to grade-point average, Stockham and Hesseldenz found that loan amount, American College Testing (ACT) composite scores, and personality data from the Omnibus Personality Inventory were the best predictors of repayment behavior among more than twenty variables tested for students at the University of Kentucky. Bergen, Bergen, and Miller (1972) found that grade-point average was significant for borrowers delinquent 12 months or less; the GPA was not helpful in predicting longer delinquencies.

In a follow-up to the 1979 study, Hesseldenz and Stockham (1982) examined the related question of the borrowers' ability to repay by looking for differences between the incomes of debtors who repay their loans and those who do not. They found that there was no significant difference in the disposable income of the two groups of borrowers. Myers and Siera (1980) and Stockham and Hesseldenz (1979) found a relationship between the amount of money borrowed and repayment. Interestingly, students with large loan balances were found to be more likely to repay than those with relatively small loans. Stockham and Hesseldenz (1979) believe that loan balances may actually be a measure of student persistence; students leaving school early may not accumulate large balances. In addition, these students may be less willing to pay a loan which they associate with a short, unsuccessful academic career.

Black students were more likely to be delinquent in the studies conducted by Hauptman (1977) and Gray (1985). Race was not, however, a significant explanatory variable in the model developed by Myers and Siera (1980). The gender of the borrowers was tested in most studies but was not generally found to be significant.

Testing for academic level was also generally included in the studies. Academic level was positively related to repayment for students receiving their first loan as seniors (Myers and Siera, 1980). Gray (1985) and Stockham and Hesseldenz (1979) also noted a positive relationship between the number of credit hours earned and repayment. Dyl and McGann (1977), on the other hand, found academic year to be irrelevant

in predicting delinquency among students at the University of Wyoming.

## Research Design

Loan records were examined for 503 Federal Perkins Loan borrowers who dropped below at least half-time enrollment during a two-year period at a major state university in the southwest. Half-time enrollment is required for student status deferments in the loan program. A review was completed at the end of the first year of repayment to determine whether the borrower had been delinquent during that year.

No current theory exists that identifies which factors should play a role in loan delinquencies. Prior studies examine the relationships of characteristics such as borrower gender, race, and academic level with loan defaults. Selection of variables used in previous work allows comparison of the relationships observed in this dataset with those studied earlier. As a result, this earlier work as well as data availability guided variable selection.

Independent variables examined consisted of the following:

Independent variable	Description
Gender	Borrower gender (male or female).
Academic level	Academic level of the borrower when the most recent loan was received. Borrower academic levels ranged from freshmen to graduate students.
Race	Minority/nonminority borrower.
Exit	Exit interview completion in person or by mail.

The 503 borrowers included in this study represent the entire population of Federal Perkins Loan borrowers who dropped below half-time enrollment after the spring semester during the period studied. In some cases, data were missing for one or more of the independent variables studied, causing fluctuations in the sample size reported for each variable. Table 1 shows the number of borrowers and category percentages for these variables.

Gender, race, and academic level were also used to determine borrowers most likely to complete exit interviews. The dependent variable, delinquency, is represented by an indicator variable, with loans experiencing at least one late payment during the first year of repayment coded as one.

Preliminary analysis was conducted using the chi-square test of independence to determine whether a relationship existed between delinquency and each of the independent variables. Two-way contingency tables were constructed to test the null hypothesis: delinquency is not related to the independent variable. Under this test, the null hypothesis is rejected if the computed  $X^2$  exceeds the tabulated values of chi-square; this occurs when the p-value is less than alpha. [The p-value measures the extent to which the sample data support the idea that no relationship exists between the variables. Thus, a very low p-

**TABLE 1**  
**Independent Variables**  
**Descriptive Information**

	Number of Borrowers	Percentage
<b>Gender</b>		
Male	250	49.7%
Female	253	50.3
<b>Academic Level</b>		
Freshman	48	23.3%
Sophomore	30	14.6
Junior	33	16.0
Senior	76	36.9
Graduate	19	9.2
<b>Exit</b>		
Interview in person	286	56.9%
Interview by mail	50	9.9
Incomplete interview <sup>1</sup>	19	3.8
No interview	148	29.4
<b>Race</b>		
Nonminority	169	83.3%
Minority	34	16.7

<sup>1</sup>Omitted from analysis.

value provides confidence that the relationship observed in the sample data is not a statistical anomaly. Alpha is a threshold representing the highest p-value at which we are willing to draw conclusions based on the sample data.] To identify the borrowers who were most likely to complete exit interviews voluntarily, a similar examination was completed that looked for relationships between exit interview completion and the gender and academic level variables.

After completion of the chi-square test, a simple logistic regression model was developed to measure the strength of any relationship indicated in the first test. The logistic regression technique results in a single binary dependent variable and has far fewer assumptions than traditional linear models. Perhaps most importantly for this study, the logistic regression model does not require that the covariates be normally distributed. The logistic regression technique does assume that the value of the dependent variable Y represents levels of response and that the different levels reflect the same basic mechanism, but makes no assumption about the meaning of the interval scale of differences between categories. Logistic regression is generally held to be superior under non-normal conditions and is therefore preferred to discriminant analysis for the study at hand (Gray, 1985).

To test for sample-specific biases, the logistic regression model was developed using 246 randomly selected observations. The resulting model was then validated by using the results to predict the delinquencies in a holdout sample consisting of the remaining 238 cases. Cross-validation is frequently suggested to identify relationships in the data that may be unique to a given sample. Potentially, the strength of a

relationship between similar factors in different samples may fluctuate, resulting in significantly different regression coefficients (Gray, 1985).

## Results

Initial tests were conducted to determine whether the borrowers in this sample exhibited repayment behaviors similar to those reported in earlier studies. The results indicate that the relationships observed in earlier studies also exist in this sample.

### *Loan Delinquency and Borrower Characteristics*

The chi-square test of independence found no relationship between borrower gender and loan delinquency during the years studied (Table 2). This is consistent with other studies [see Gray (1985), Myers and Siera (1980), Stockham and Hesseldenz (1979), and Dyl and McGann (1977)]. The student's academic level at the time the last loan was received was found to be significantly related to delinquency; similar

**TABLE 2**  
**Contingency Tables for the Comparison of Observed Versus Expected Distributions of Delinquencies**

		Delinquent		Total
		Yes	No	
<b>Gender</b>				
Male	Observed	109	141	250
	Expected	109.84	140.16	
Female	Observed	112	141	253
	Expected	111.16	141.84	
Total		221	282	503

Overall Chi Square: 0.0228 P-value: 0.8799

<b>Academic Level</b>				
Freshman	Observed	36	12	48
	Expected	24.00	24.00	
Sophomore	Observed	12	18	30
	Expected	15.00	15.00	
Junior	Observed	19	14	33
	Expected	16.50	16.50	
Senior	Observed	33	43	76
	Expected	38.00	38.00	
Graduate	Observed	3	16	19
	Expected	9.50	9.50	
Total		103	103	206

Overall Chi Square: 24.17 P-value: 0.0001

<b>Race</b>				
Minority	Observed	23	11	34
	Expected	17.25	16.75	
Nonminority	Observed	80	89	169
	Expected	85.75	83.25	
Total		103	100	203

Overall Chi Square: 4.671 P-value: 0.0307

to the studies mentioned previously, academic level was positively related to delinquency.

Reinforcing the findings of Hauptman (1977) and Gray (1985), race was found to be significantly related to delinquency. Minority students were more likely to be delinquent than were nonminority students. The inferences that can be drawn from the observed relationship between race and delinquency are extremely narrow in scope, however. While the finding is useful in comparing the borrower population in this study with those found in earlier works, it seems likely that the race variable may be acting as a surrogate measure for some other underlying causal factor such as family socioeconomic level or academic success.

#### *Loan Delinquency and Exit Interviews*

The same test also revealed a relationship between borrower delinquency and exit interview status (Table 3). Borrowers completing the exit interview process were less likely to have delinquent payments than borrowers not completing the process.

The logistic regression model confirmed the results observed in the chi-square tests, and correctly predicted over 95% of the delinquencies in the holdout sample. This model predicted that 44 of the borrowers in the holdout sample who did not complete an exit interview would be delinquent at least once during the first year of repayment; in actuality, 46 of these borrowers had delinquent loans, an accuracy rate of 95.65%. The model predicted that only 54 of the borrowers in the holdout sample who completed exit interviews would have delinquent student loans; the actual number in the holdout sample which had both completed an exit interview and were delinquent was 56, an accuracy rate of 96.43%.

Exit interview completion is therefore related to borrower delinquency in the first year of repayment. The question then shifts to whether the format of the exit interview is important in determining loan delinquency. Results indicate that exit interviews completed in person do not provide a significant advantage in reducing loan delinquencies over exit documents completed by the student without personal contacts (Table 6).

**TABLE 3**  
**Contingency Tables for the Comparison of Observed Versus Expected Distributions of Delinquencies by Exit Interview**

Exit Interview		Delinquent		Total
		Yes	No	
No Exit	Observed	92	56	148
	Expected	62.07	85.93	
Exit Conducted	Observed	111	225	336
	Expected	140.93	195.07	
Total		203	281	484

Overall Chi Square: 35.79    P-value: 0.0000

**TABLE 4**  
**Logistic Regression Analysis**  
**Dependent Variable: Delinquency**

Parameter	Estimate	Standard Error	P
Intercept	.4274	.2346	0.0662
Exit Conducted	-1.1650	.2862	0.0001

Cases included: 246    Model: P-value: 0.0013

**TABLE 5**  
**Results of Logistic Regression: Comparison of Observed**  
**Versus Predicted Delinquencies By Exit Interview**

Exit Interview	Observed	Predicted	Difference	% Correct
No Exit	46	44	2	95.65
Exit Conducted	56	54	2	96.43
Total	102	98	4	96.08

**TABLE 6**  
**Contingency Tables for the Comparison of Observed**  
**Versus Expected Distributions of Delinquencies by Exit**  
**Interview Type: Completed Exits Only**

Exit Interview Type		Delinquent		Total
		Yes	No	
In Person	Observed	94	192	286
	Expected	94.48	191.52	
Mail	Observed	17	33	50
	Expected	16.52	33.48	
Total		111	225	336

Overall Chi Square: 0.0247    P-value: 0.8751

#### *Exit Interviews and Borrower Characteristics*

Insights into characteristics of borrowers who are less likely to complete the interview documents could potentially lead to fewer loan delinquencies by allowing institutions to target "high risk" groups. Chi-square tests were again conducted to see if systematic differences occurred between groups completing exit interviews and those not completing the process.

Results indicate that academic level is significantly related to exit interview completion; students receiving their loans while seniors were more likely to complete the exit interview than were recipients who were freshmen at the time the last loan was received. Race and exit interview completion were also related, with minority students less likely to complete exit interviews than nonminority students. No sig-



**Summary and  
Suggestions for Future  
Research**

nificant differences in exit interview completion were noted between male and female students. (Table 7)

The effect of exit interviews on loan delinquency and default is an area which is largely unexplored and more research should be done to expand our understanding. The data from this study indicate that the exit interview process does play a role in predicting borrowers who are likely to have delinquent payments on Federal Perkins Loans. It is difficult, however, to make inferences about whether the loan delinquency was caused by the lack of an exit interview.

The simple act of completing the interview process may serve to eliminate confusion about the repayment process in the borrower's mind, and makes the borrower aware of his or her rights and responsibilities for repayment under the terms of the promissory note. Alternatively, students completing an exit interview may simply be those who intend to repay. As a result, while it is unclear whether exit interviews

**TABLE 7**  
**Contingency Tables for the Comparison of Observed Versus  
Expected Distributions of Exit Interviews**

		Exit Interview		
		No	Yes	Total
Gender				
Male	Observed	78	167	245
	Expected	74.92	170.08	
Female	Observed	70	169	239
	Expected	73.08	165.92	
Total		148	336	484

Overall Chi Square: 0.3700 P-value: 0.5430

<b>Academic Level</b>				
Freshman	Observed	38	7	45
	Expected	18.27	26.73	
Sophomore	Observed	17	13	30
	Expected	12.18	17.82	
Junior	Observed	15	18	33
	Expected	13.40	19.60	
Senior	Observed	10	65	75
	Expected	30.45	44.55	
Graduate	Observed	2	17	19
	Expected	7.71	11.29	
Total		82	120	202

Overall Chi Square: 69.65 P-value: 0.0000

<b>Race</b>				
Minority	Observed	23	10	33
	Expected	13.10	19.90	
Nonminority	Observed	56	110	166
	Expected	65.90	100.10	
Total		79	120	199

Overall Chi Square: 14.87 P-value: 0.0001

cause the borrower to repay the loan in a timely manner, the interview process may be a good predictor of borrower diligence in loan repayment. This difficulty is caused, in part, by a lack of a theoretical framework to guide research design. Future research in this area might benefit by examining student loan-related decisions in light of emerging theories of decision making such as Beach's newly developed image theory (1990). Image theory predicts that nonroutine decisions are influenced by the values, goals, and plans held by a decision maker; these factors could conceivably influence many loan repayment decisions.

Even without a strong theoretical framework, factors that may be related to exit interview completion or noncompletion warrant further investigation in light of the observed relationship between delinquency and exit interviews. A first step toward this goal would be to look at the exit interview process as a component of the "total picture," that is, by expanding the investigation to include more of the variables found to be significant in the delinquency process by other researchers as well as other types of student loans. Building from this base, exit interview-specific factors, such as the effect of an institution-level compulsory exit interview policy could provide additional evidence as to the cause and effect relationships between the exit interview and delinquency.

Another potentially important factor in exit interview completion is the timing of the borrower's departure from school. Only borrowers leaving during the spring semester at one university were included in this study. Further research should be conducted to see whether the relationships found in this study are maintained for students leaving during other times of the academic year, or for students attending other types of institutions, such as proprietary schools. Additionally, although there are substantial costs associated with the exit process, little work has been done to ascertain actual dollar figures associated with the exit interview process. A cost/benefit study could be an important contribution.

Empirical evidence from a variety of institutions and loan funds will be needed to further our understanding of delinquent borrowers. This study, however, contributes one more item for consideration. ♦

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